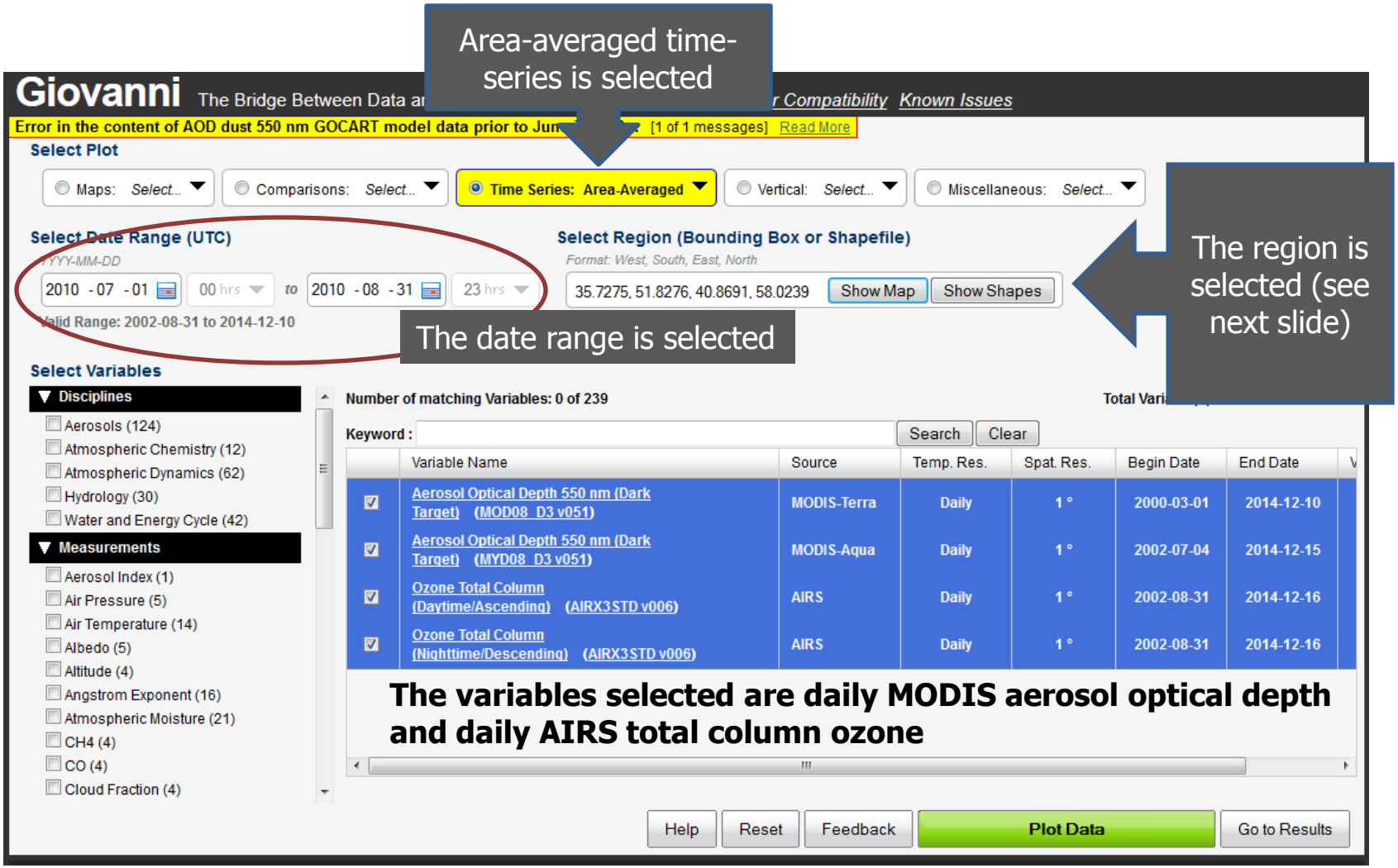
How to plot time-series for multiple data variables with **Giovanni-4**

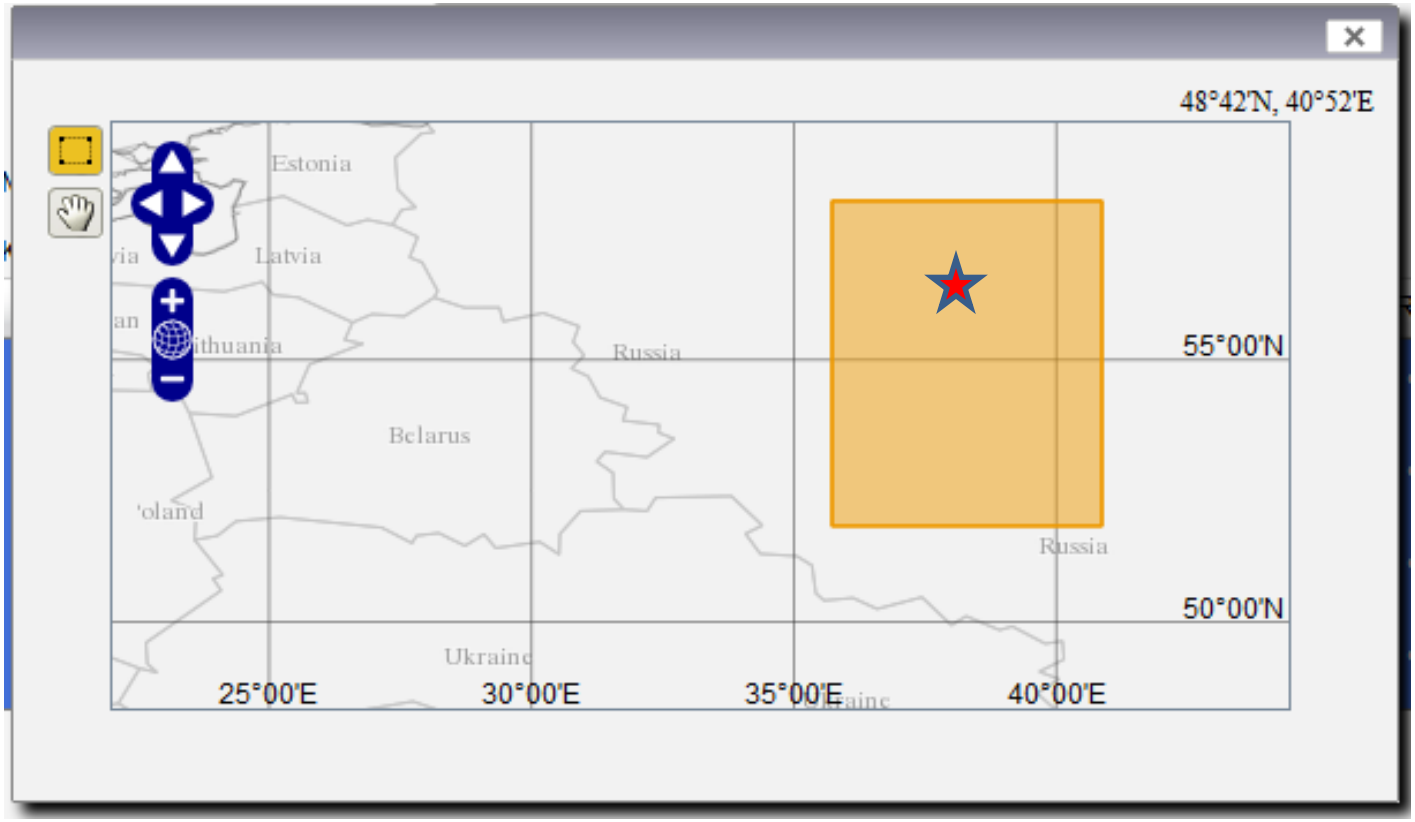
The following slides demonstrate how to plot time-series with multiple data variables at the same time with Giovanni-4

This is a demonstration of how to plot time-series of more than one data variable at the same time with Giovanni-4.



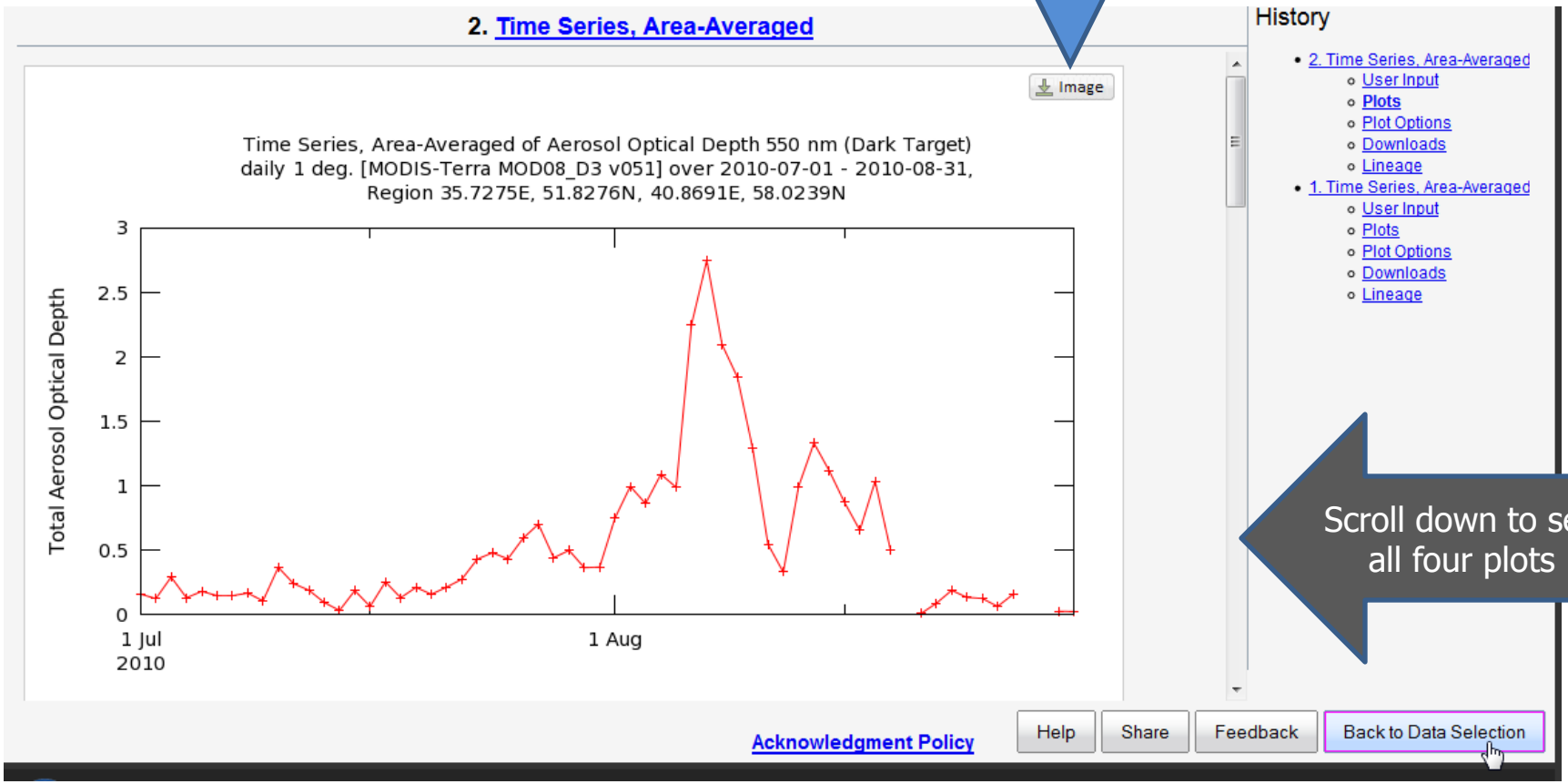
For this demonstration, a region of Russia including the city of Moscow was chosen. During the selected date range, the region was influenced by smoke and aerosols from large wildfires nearby, which began burning in late July.

The red star indicates the approximate location of Moscow. The light orange rectangle is the selected region.

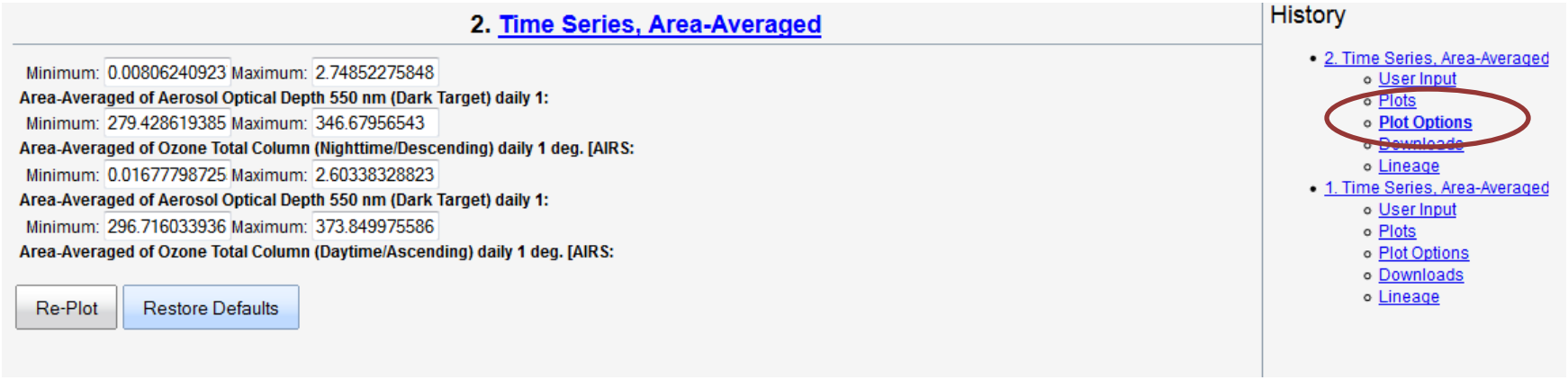


Here is the results page for the time-series plots. Time-series have been plotted for all four of the selected data variables: MODIS-Terra and MODIS-Aqua Dark Target AOD, and AIRS total column ozone, daytime and nighttime.

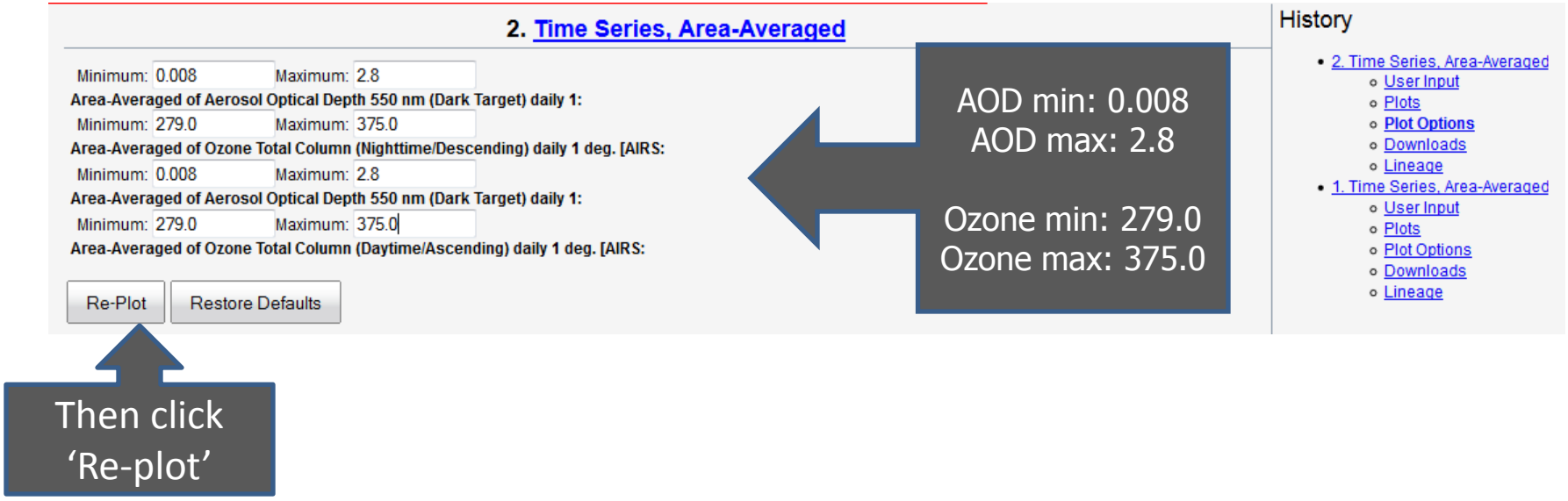
Click here to download the image



PLOT OPTIONS – the Y-axis of each plot can be scaled. The default Y-axis range depends on the range of output values for the data variable that is plotted.

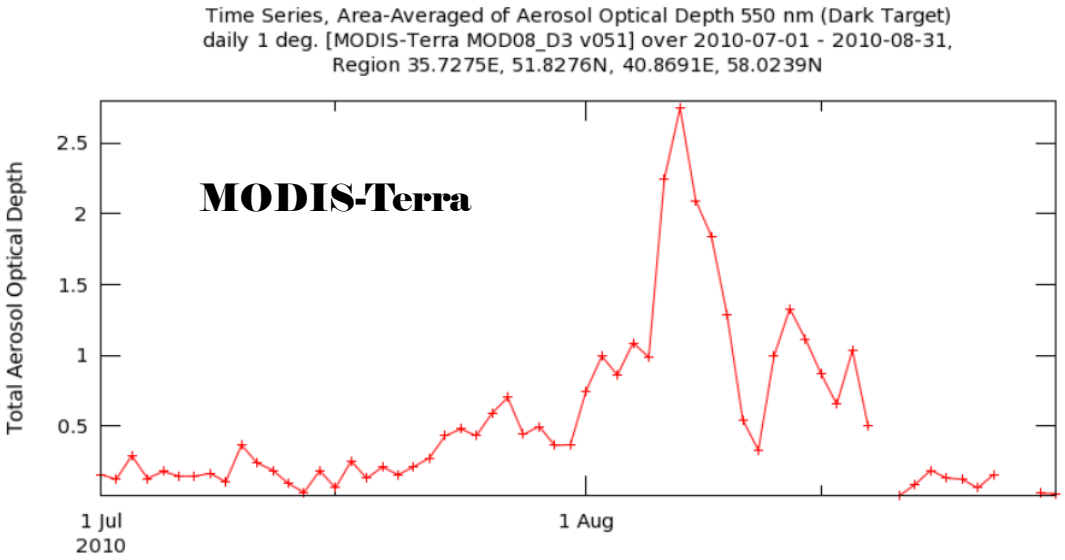


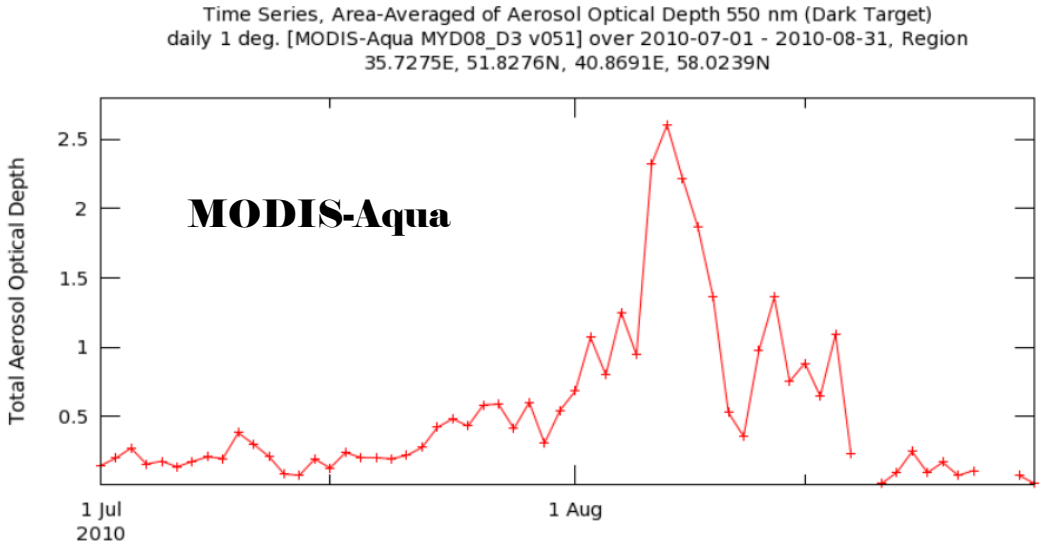
To allow direct comparison of the time-series plots, the minimum and maximum Y-axis values were adjusted to be the same for the AOD series and the ozone series.



Here are the AOD time-series plots, with the same Y-axis range.

Aerosols from the wildfires began to affect the Moscow region in early August, several days after the fires began burning.

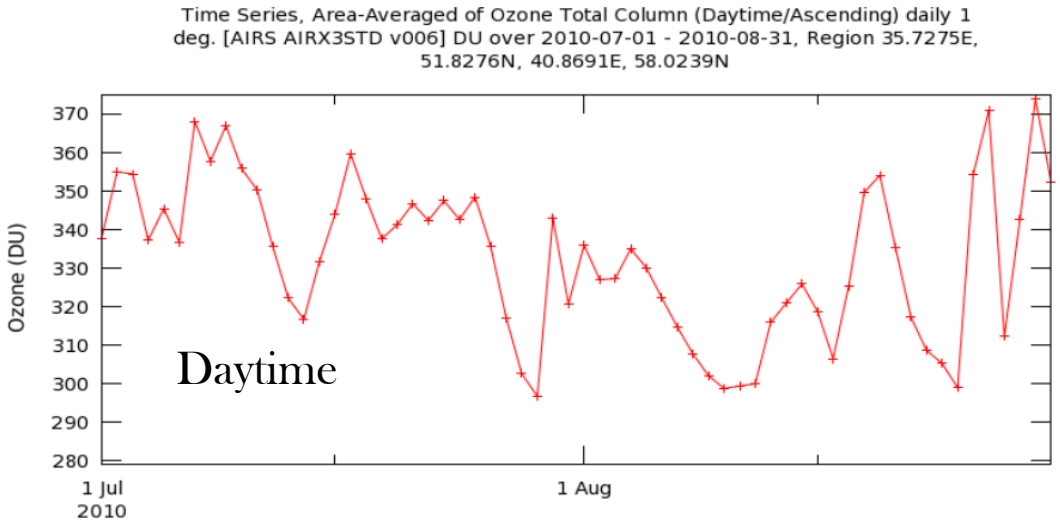


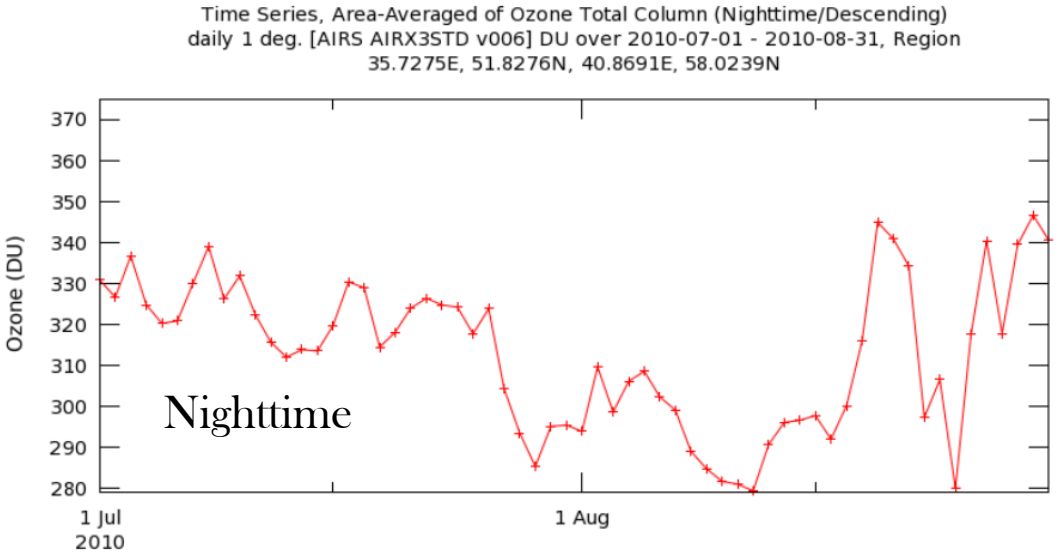


Here are the ozone time-series plots, with the same Y-axis range.

Ozone values peaked later in the month than the AOD values, especially at night.

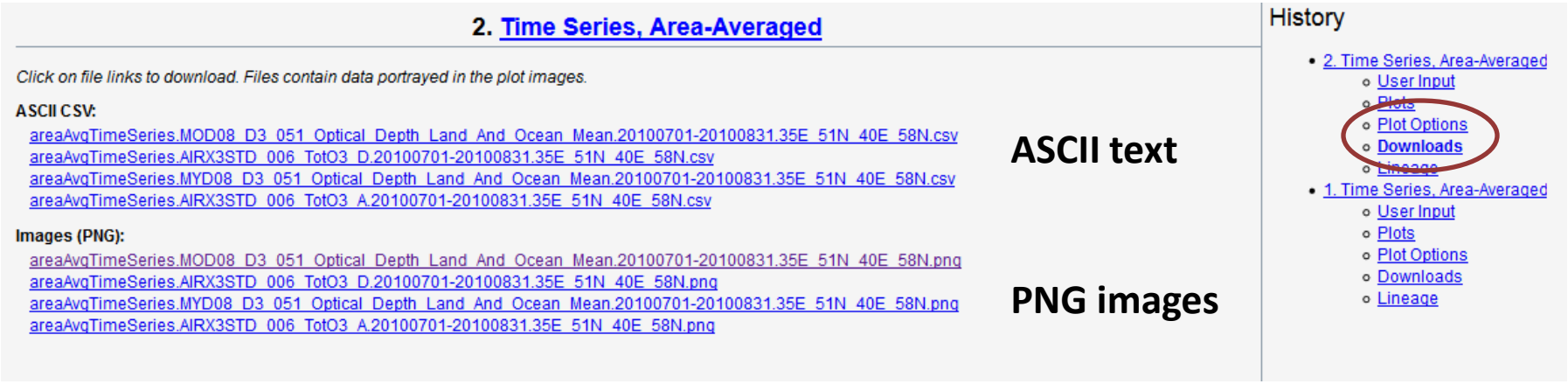
Daytime values may be more affected by urban pollutants and photo-oxidation by sunlight in the summer.





DOWNLOAD OPTIONS – The data can be downloaded in the form of a PNG image from the results page (as shown earlier), or from the Downloads page (below).

The numerical values for the time-series can be downloaded in ASCII text format as CSV (Comma-Separated Values), which can be opened directly in Microsoft Excel or saved as a file.



Currently, multiple data variables cannot be plotted on the same plot. This is an option that will be released in a later version of Giovanni-4.

End of demonstration